

**Notice of Allowability**

Application No.

10/600,627

Examiner

Huedung X Cao

Applicant(s)

GOTHARD ET AL.

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment, filed on 07/21/03.
2. ☒ The allowed claim(s) is/are 1-23.
3. ☒ The drawings filed on 20 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

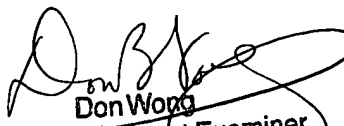
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 07/14/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800

***Examiner's Statement of Reasons for Allowance***

1. Claims 1-23 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The prior art made of record fails to anticipate or make obvious the claimed invention. Specifically, the prior art fails to teach, in combination with the remaining elements as recited in claims 1, 12, and 21:

The present invention is directed to a method for operating a compact multi-band antenna and for feeding a compact main reflector of an RF antenna.

Independent claim 1 is identified the uniquely distinct feature "a first one of said feed elements installed at a first feed element location separated by a first gap from a vertex of said shaped non-linear surface of revolution on said boresight axis of said antenna, said first feed element illuminating said shaped non-linear surface of revolution which defines a ring-shaped focal point about said boresight axis for illuminating said main reflector at a first one of said frequency bands; and a second one of said feed element installed at a second feed element location separated from said vertex on said boresight axis by a second gap, said second feed element coupled to said shaped non-linear surface of revolution at a second one of said frequency bands to form a single coupled feed, said single coupled feed defining a focal ring for illuminating said main reflector at said second one of said frequency bands".

Independent claim 12 is identified the uniquely distinct feature "forming a ring-shaped focal point about said boresight axis using a subreflector in the far

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field relative to a first feed element aligned with said boresight axis; and positioning a second feed element aligned with said boresight axis in a nearfield position coupled to said sub-reflector to form in combination with said sub-reflector a single coupled feed, said single coupled feed defining a focal ring that transforms a circular concurrently operating said compact multi-band antenna".

Independent claim 21 is identified the uniquely distinct feature "forming a second focal ring for said main reflector by positioning a second RF source in the nearfield of said shaped non-linear surface of revolution, said second RF source interacting with said shaped non-linear surface of revolution to form a single feed network at said second RF frequency, said single feed network forming a coupled feed focal ring for said main antenna".

Claims 2-11 are allowed for depending on claim 1.

Claims 13-20 are allowed for depending on claim 12.

Claims 22-23 are allowed for depending on claim 21.

The prior arts fail to anticipate or render the above underline limitation obvious.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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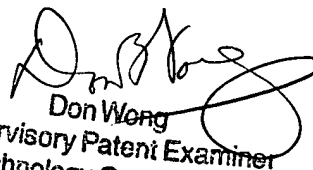
***Inquires***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao  
Patent Examiner

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800